



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,589	10/17/2005	Hitoshi Isono	2005-0921A	5165

513 7590 07/03/2007
WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER

CULLER, JILL E

ART UNIT	PAPER NUMBER
----------	--------------

2854

MAIL DATE	DELIVERY MODE
-----------	---------------

07/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/537,589	ISONO ET AL.
	Examiner	Art Unit
	Jill E. Culler	2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 06 June 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-30 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-30 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 06 June 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 20050902,20060216.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application
 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-20 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2002-079259.

With respect to claim 1, JP 2002-079259 teaches a waste liquid regeneration apparatus for a printer, characterized in that said liquid regeneration apparatus comprises: a vessel into which waste liquid containing ink pigment, water and cleaning fluid used in said printer is supplied; a metal electrode plate disposed in said vessel for partitioning the inside of said vessel into a first chamber and a second chamber and for allowing the waste liquid to flow therethrough; a high-voltage power supply for applying a voltage to said metal electrode plate; and a grounding electrode connected to said first chamber. See Abstract and machine translation paragraph 9.

With respect to claim 2, JP 2002-079259 teaches that one or a plurality of additional metal electrode plates for allowing the waste liquid to flow therethrough are provided in a juxtaposed and spaced relationship with from each other in said second chamber such that each of said metal electrode plates partitions said second chamber, and that said high-voltage power supply is connected to each of said metal electrode

plates including said metal electrode plate which partitions the inside of said vessel into said first chamber and second chamber. See translation paragraph 10.

With respect to claim 3, JP 2002-079259 teaches that a higher voltage is applied to any of said metal electrode plates as the distance from said grounding electrode to the metal electrode plate increases. See translation paragraph 11.

With respect to claim 4, JP 2002-079259 teaches that a voltage is applied to each of said metal electrode plates from a corresponding one of the high-voltage power supplies such that a higher field intensity is generated by the metal electrode plate as the distance from said grounding electrode to the metal electrode plate decreases. See translation paragraph 11.

With respect to claim 5, JP 2002-079259 teaches that a waste liquid supplying pipe for supplying the waste liquid is connected to said first chamber, and that a cleaning fluid recovering pipe for recovering the regenerated cleaning fluid is connected to said second chamber. See translation paragraphs 12-13.

With respect to claim 6, JP 2002-079259 teaches that said waste liquid supplying pipe and said cleaning fluid recovering pipe are connected to a blanket drum cleaning apparatus for cleaning a blanket drum of said printer, and that the waste liquid discharged from said blanket drum cleaning apparatus is supplied to said first chamber through said waste liquid supplying pipe and the cleaning fluid regenerated in said second chamber is recovered by said blanket drum cleaning apparatus through said cleaning fluid recovering pipe. See translation paragraph 13.

With respect to claim 7, JP 2002-079259 teaches that a reservation section for settling the water separated from the waste liquid and reserving the water is provided at a lower portion of said first chamber. See translation paragraph 14.

With respect to claim 8, JP 2002-079259 teaches that said grounding electrode is disposed substantially horizontally at a lower portion of the inside of said vessel, and that said metal electrode plate or plates are disposed substantially horizontally above said grounding electrode in said vessel. See translation paragraph 14.

With respect to claim 9, JP 2002-079259 teaches that a partition wall is disposed in the proximity of a first side wall of the inside of said vessel, that said metal electrode plate or plates are disposed between a second side wall opposing to the first side wall of the inside of said vessel and said partition wall, that said waste liquid supplying pipe for supplying the waste liquid is connected to a region defined by said partition wall and said first side wall, and that said cleaning fluid recovering pipe for recovering the regenerated cleaning fluid is connected to another region surrounded by said metal electrode plate or plates, said second side wall and said partition wall. See translation paragraphs 14-15.

With respect to claim 10, JP 2002-079259 teaches that said metal electrode plate or plates are a wire mesh type metal electrode plates. See translation paragraphs 11 and 15.

With respect to claim 11, JP 2002-079259 teaches that said waste liquid regeneration apparatus for a printer further comprises a scraping plate for scraping off

ink pigment agglomerated on and adhering to said grounding electrode to remove the ink pigment from said grounding electrode. See translation paragraph 46.

With respect to claim 12, JP 2002-079259 teaches that said grounding electrode is mounted for extraction to the outside of said vessel. See translation paragraph 15.

With respect to claim 13, JP 2002-079259 teaches that said grounding electrode is formed as a metal sheet which can be taken up in a coiled form, and that said waste liquid regeneration apparatus for a printer further comprises: a delivering apparatus disposed outside said vessel for delivering said metal sheet, and a take-up apparatus provided outside said vessel for taking up said metal sheet after said metal sheet is delivered from said delivering apparatus and used in said vessel. See translation paragraph 15.

With respect to claim 14, JP 2002-079259 teaches that said waste liquid regeneration apparatus for a printer further comprises: thin paper in the form of a roll for covering a surface of said grounding electrode; a delivering apparatus disposed outside said vessel for delivering said thin paper, and a take-up apparatus disposed outside said vessel for taking up said thin paper after said thin paper is delivered from said delivering apparatus and used in said vessel. See translation paragraph 16.

With respect to claim 15, JP 2002-079259 teaches that said grounding electrode is formed as a rotatable metal bar having a cylindrical shape, and that said metal electrode plate or plates are formed in a cylindrical shape so as to surround the outside of said grounding electrode. See translation paragraph 16.

With respect to claim 16, JP 2002-079259 teaches that the waste liquid regeneration apparatus for a printer further comprises a blade provided in sliding contact with said metal bar for scraping off ink pigment adhering to the outside surface of said metal bar. See translation paragraph 16.

With respect to claim 17, JP 2002-079259 teaches that said grounding electrode is formed as a rotatable metal disc, and that a blade is provided in sliding contact with said metal disc for scraping off the ink pigment adhering to the outside surface of said metal disc. See translation paragraph 17.

With respect to claim 18, JP 2002-079259 teaches that said grounding electrode is formed as an endless metal sheet, and said waste liquid regeneration apparatus for a printer further comprises: a driving apparatus for driving said endless metal sheet to rotate; and a blade provided in sliding contact with said endless metal sheet for scraping off the ink pigment adhering to the outside surface of said metal sheet. See translation paragraph 17.

With respect to claim 19, JP 2002-079259 teaches that said grounding electrode is formed from an electrically-conductive protuberance or a network-like metal member. See translation paragraph 19.

With respect to claim 20, JP 2002-079259 teaches that said waste liquid regeneration apparatus for a printer further comprises an ultrasonic oscillation apparatus for applying oscillation to said grounding electrode to re-dissolve the ink pigment adhering to said grounding electrode into the cleaning fluid. See translation paragraph 19.

With respect to claim 30, JP 2002-079259 teaches a waste liquid regeneration method for regenerating waste liquid containing ink pigment, water and cleaning fluid used in a printer, characterized in that an electrostatic field is generated in the waste liquid such that the water and the ink pigment are electrostatically agglomerated from within the waste liquid making use of electrophoresis of the ink pigment by the electrostatic field to separate the waste liquid into the cleaning fluid, water and ink pigment. See abstract and translation paragraph 9.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-079259 in view of JP 2002-292834.

With respect to claim 21, JP 2002-079259 teaches everything, as in the above rejection of claims 1-20 and 30, except that said metal electrode plate or plates are disposed horizontally or substantially horizontally in said vessel to form said first chamber below said second chamber, that a third chamber for reserving the water below said first chamber is provided in a spaced relationship from said metal electrode plate or plates, and that said grounding electrode is connected to said third chamber.

JP 2002-292834 teaches a waste liquid regeneration apparatus having a metal electrode plate or plates disposed horizontally or substantially horizontally in a vessel to form said first chamber below said second chamber, that a third chamber for reserving the water below said first chamber is provided in a spaced relationship from said metal electrode plate or plates, and that said grounding electrode is connected to said third chamber. See Abstract and machine translation.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of JP 2002-079259 to have the third reserve chamber, as taught by JP 2002-292834 in order to benefit from the actions of gravity in the system.

With respect to claim 22, JP 2002-079259 teaches everything, as in the above rejection of claims 1-20 and 30, except that a waste liquid supplying pipe for supplying the waste liquid is connected to said first chamber, that a cleaning fluid recovering pipe for recovering the regenerated cleaning fluid is connected to said second chamber, that a regenerated water recovering pipe for recovering the regenerated water is connected to a portion higher than a bottom portion in said third chamber, and that a remaining liquid recovering pipe for recovering remaining liquid in said vessel is connected to the bottom of said third chamber.

JP 2002-292834 teaches that a waste liquid supplying pipe for supplying the waste liquid is connected to said first chamber, that a cleaning fluid recovering pipe for recovering the regenerated cleaning fluid is connected to said second chamber, that a regenerated water recovering pipe for recovering the regenerated water is connected to

a portion higher than a bottom portion in said third chamber, and that a remaining liquid recovering pipe for recovering remaining liquid in said vessel is connected to the bottom of said third chamber. See translation paragraph 21.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of JP 2002-079259 to have the piping arrangement, as taught by JP 2002-292834 so that the separated and unseparated liquids can flow properly.

With respect to claim 23, JP 2002-079259 teaches everything, as in the above rejection of claims 1-20 and 30, except that said waste liquid regeneration apparatus for a printer further comprises a returning flow path for returning at least one of the regenerated cleaning fluid, regenerated water and remaining liquid recovered through said cleaning fluid recovering pipe, said regenerated water recovering pipe and said remaining liquid recovering pipe.

JP 2002-292834 teaches that said waste liquid regeneration apparatus for a printer further comprises a returning flow path for returning at least one of the regenerated cleaning fluid, regenerated water and remaining liquid recovered through said cleaning fluid recovering pipe, said regenerated water recovering pipe and said remaining liquid recovering pipe. See translation paragraph 21.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of JP 2002-079259 to have the piping arrangement, as taught by JP 2002-292834 so that the recovered liquids can be reused.

With respect to claims 24-25, JP 2002-079259 teaches everything, as in the above rejection of claims 1-20 and 30, except that said third chamber is formed in a funnel-shape and chamber has an inner face soil release processed for preventing adhering of the ink pigment thereto.

JP 2002-292834 teaches that said third chamber is formed in a funnel-shape and chamber has an inner face soil release processed for preventing adhering of the ink pigment thereto. See translation paragraph 21.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of JP 2002-079259 to have the funnel shape and soil release processing, as taught by JP 2002-292834 so that the liquids are more efficiently separated with less contamination of the apparatus.

5. Claims 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-079259 in view of JP 2001-315312.

With respect to claim 26, JP 2002-079259 teaches everything, as in the above rejection of claims 1-20 and 30, except that said waste liquid regeneration apparatus for a printer further comprises a waste liquid supplying apparatus for supplying the waste liquid to said first chamber, and that said waste liquid supplying apparatus is configured so as to allow operation thereof in accordance with an intermittent supplying method wherein supply of the waste liquid and stopping of the supply are performed alternately.

JP 2001-315312 teaches a waste liquid regeneration apparatus that further comprises a waste liquid supplying apparatus for supplying the waste liquid to said first

chamber, and that said waste liquid supplying apparatus is configured so as to allow operation thereof in accordance with an intermittent supplying method wherein supply of the waste liquid and stopping of the supply are performed alternately. See machine translation paragraphs 18 and 23.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of JP 2002-079259 to have the configuration, as taught by JP 2001-315312 so that the process is not negatively affected by the starting and stopping of the wastewater supply.

With respect to claim 27, JP 2002-079259 teaches everything, as in the above rejection of claims 1-20 and 30, except that said waste liquid regeneration apparatus for a printer further comprises: a first detection apparatus for detecting a physical amount correlated with the concentration of the ink pigment in the regenerated cleaning fluid separated from the waste liquid in said first chamber and recovered into said second chamber or a physical amount correlated with the concentration of the ink pigment in the regenerated cleaning fluid; and a control apparatus for controlling at least one of a supplying rate, supplying time and stopping time of the waste liquid by said waste liquid supplying apparatus in response to a result of the detection of said first detection apparatus so that the concentration of the ink pigment in the regenerated cleaning fluid may remain within a predetermined control range.

JP 2001-315312 teaches that said waste liquid regeneration apparatus for a printer further comprises: a first detection apparatus for detecting a physical amount correlated with the concentration of the ink pigment in the regenerated cleaning fluid

separated from the waste liquid in said first chamber and recovered into said second chamber or a physical amount correlated with the concentration of the ink pigment in the regenerated cleaning fluid; and a control apparatus for controlling at least one of a supplying rate, supplying time and stopping time of the waste liquid by said waste liquid supplying apparatus in response to a result of the detection of said first detection apparatus so that the concentration of the ink pigment in the regenerated cleaning fluid may remain within a predetermined control range. See translation paragraphs 18 and 23.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of JP 2002-079259 to have the configuration, as taught by JP 2001-315312 so that the process can adapt to a change in the flow of the wastewater supply.

With respect to claim 28, JP 2002-079259 teaches everything, as in the above rejection of claims 1-20 and 30, except that said waste liquid supplying apparatus further allows operation thereof in accordance with a continuous supplying method wherein the waste liquid is supplied continuously and is configured for changing over between the intermittent supplying method and the continuous supplying method.

JP 2001-315312 teaches that said waste liquid supplying apparatus further allows operation thereof in accordance with a continuous supplying method wherein the waste liquid is supplied continuously and is configured for changing over between the intermittent supplying method and the continuous supplying method. See translation paragraphs 18 and 23.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of JP 2002-079259 to have the configuration, as taught by JP 2001-315312 so that the process is capable of handling a continuous wastewater supply.

With respect to claim 29, JP 2002-079259 teaches everything, as in the above rejection of claims 1-20 and 30, except that said waste liquid regeneration apparatus for a printer further comprises: a second detection apparatus for detecting a physical amount correlated with the concentration of the water in the waste liquid supplied into said first chamber by said waste liquid supplying apparatus or a physical amount correlated with the concentration of the water in the waste liquid; and a changeover apparatus for changing over the waste liquid supplying method of said waste liquid supplying apparatus in response to a result of the detection of said second detection apparatus such that, when the concentration of the water in the waste liquid is within a predetermined range, said waste liquid supplying apparatus is operated in accordance with the intermittent supplying method, but when the concentration of the water in the waste liquid is outside the predetermined range, said waste liquid supplying apparatus is operated in accordance with the continuous supplying method.

JP 2001-315312 teaches that said waste liquid regeneration apparatus for a printer further comprises: a second detection apparatus for detecting a physical amount correlated with the concentration of the water in the waste liquid supplied into said first chamber by said waste liquid supplying apparatus or a physical amount correlated with the concentration of the water in the waste liquid; and a changeover apparatus for

changing over the waste liquid supplying method of said waste liquid supplying apparatus in response to a result of the detection of said second detection apparatus such that, when the concentration of the water in the waste liquid is within a predetermined range, said waste liquid supplying apparatus is operated in accordance with the intermittent supplying method, but when the concentration of the water in the waste liquid is outside the predetermined range, said waste liquid supplying apparatus is operated in accordance with the continuous supplying method. See translation paragraphs 18 and 23.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of JP 2002-079259 to have the configuration, as taught by JP 2001-315312 so that the process can adapt to a change in the flow of the wastewater supply.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill E. Culler whose telephone number is (571) 272-2159. The examiner can normally be reached on M-F 10:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jec

Jill E. Culler
Patent Examiner